New Engineering Research Institute in Argentina

A new research center was created in Cordoba, Argentina, in October 2015: the Institute for Advanced Studies in Engineering and Technology (IDIT). The institute was created by agreement between the Argentinean National Council for Scientific and Technological Research (CONICET) and the National University of Cordoba (UNC). IDIT is hosted by the Faculty of Exact, Physical and Natural Sciences (FCEFyN) of UNC. Prof. Luis A. Godoy, a founding member of the Argentinean Association for Computational Mechanics (AMCA) has been appointed as the first director of IDIT.

Some forty people currently work at IDIT, including 17 researchers from CONICET and UNC, four post-docs, and doctoral students working under CONICET scholarships. All IDIT researchers provide support to the doctoral program in Engineering at FCEFyN by teaching doctoral courses and participating in the governance of the program. The group has gained strong recognition in Argentina from AMCA for their work in Computational Mechanics, and from IEEE in digital communications.

IDIT started as the confluence of five groups working independently at FCEFyN. The areas of research include computational modeling and testing for addressing problems of

- Digital communication and information technologies. Research specializes on theory and technology of communications, emphasizing algorithms for signal processing for fiber-optic and wireless channels and data processing for networks.
- Mechanics of solids and structures. Modeling of nonlinear dynamics and buckling of structural systems, impact problems, Unsteady and nonlinear aero-servo-elasticity, metal forming processes, and new finite elements are performed with applications to understanding the behavior of wind turbine blades, wing flexibility, oil storage tanks, and non-destructive identification of concrete structures.
- Geomechanics and Geotechnologies. Research interests include soil and rock mechanics, foundations, dynamic properties of geo-materials, environmental geotechnics, flow through porous media, and subsurface water.

Figure 1:
IDIT researchers (from left to right) Jorge Finochietto, Sergio Elaskar, Magalí Carro-Pérez, Graciela Corral-Briones, Marcelo García, Andrés Rodríguez, Federico Pinto, Marcelo Ceballos, Franco Francisca, Marcos Montoro, Damián Morero, Luis Godoy, Sergio Preidikman, Fernando Flores, Mario Hueda, Benjamín Reyes

Call for Papers

ENIEF 2016

XXII CONGRESS ON NUMERICAL METHODS AND THEIR APPLICATIONS SYMPOSIUM IN HONOR OF PROF. LUIS A. GODOY

8 - 11 November 2016. Córdoba, Argentina

The Argentine Association for Computational Mechanics (AMCA) announces the XXII Congress on Numerical Methods and their Applications, ENIEF 2016.

As part of ENIEF 2016, a Symposium in honor of Prof. Luis A. Godoy, on the occasion of his 65th anniversary and in recognition of his academic and scientific achievements, will be held. The main objective is to bring together colleagues and disciples of Professor Godoy to pay him a deserved tribute.

The congress will be organized by the National Technological University, Córdoba's Regional Faculty (Facultad
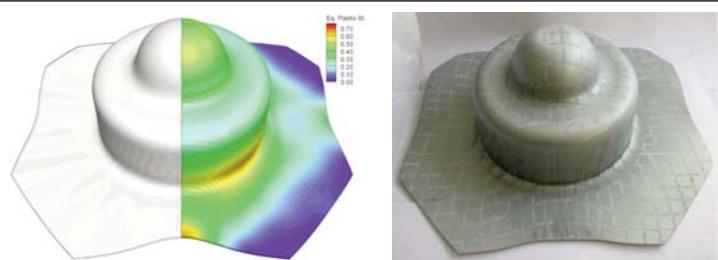
Figure 2:
The figure compares the final shapes obtained experimentally and with numerical simulation of an industrial multi-step deep drawing process. The equivalent plastic strain is plotted over the deformed shape of the simulation (work done by Fernando Flores based on in-house software)

- Hydraulics and Hydrology. Research covers limnology, river, and marine environments using advanced computational methods. Detailed studies to design of hydraulic infrastructure complemented with modern experimental facilities are also developed. The group hosts a modern meteorological radar, the first developed in Argentina.
- Mechanics of aerospace fluids. Lines of research include modeling of supersonic flow, chemically active flow (for simulating explosions and re-entry of vehicles to the atmosphere), magneto-gas-dynamics (for plasma propulsion), and chaotic intermittence.

Efforts have been made over the last two years to generate synergic activities between groups in order to foster new interdisciplinary research. These include new ideas focusing on

- Vulnerability of infrastructure and environment associated with the storage and transport of hydrocarbon fluids, and
- Digital remote sensor processing for meteorological and natural events affecting societal and environmental safety.

Strong collaboration has been developed over the years by IDIT researchers with other research institutions abroad in the form of joint projects and research exchanges, notably with Spain (Polytechnic University of Cataluña, Polytechnic University of Madrid, Universidad Autónoma de Madrid, Carlos III University of Madrid), United States (United States Geological Survey, West Virginia University, Virginia Tech, University of North Carolina at Charlotte, University of Puerto Rico, University of Maryland, University of Illinois at Urbana-Champaign), Italy (Polytechnic of Torino), France (Unité de Recherche Hydrologie-Hydraulique), and Finland (Aalto University).

Contact: idit@fcefyn.unc.edu.ar, & http://www.inv.idit.efn.uncor.edu/ ●
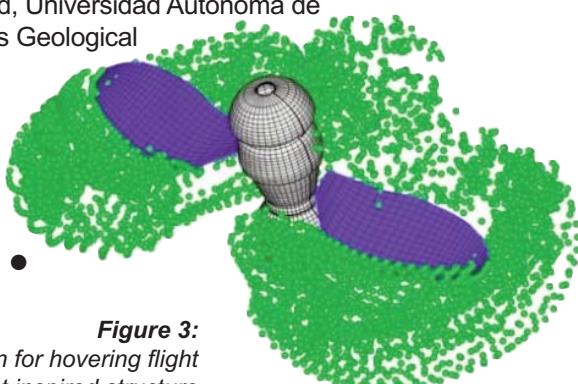
Figure 3:
The figure shows the three-dimensional wake visualization for hovering flight combined with flapping motion of an insect inspired structure (work done by Sergio Preidikman and Bruno Roccia based on in-house software)

Regional Córdoba) and will take place in Córdoba, Argentina.

Córdoba, also referred to as La Docta, is one of the most populous Argentinian city after Buenos Aires. Located in the central part of Argentina, Córdoba is an important tourist, cultural, economic and educational center of the region. With the presence of many universities and research centers, it is home of a large number of university students from all the country and the world.

We look forward to your valuable participation in this important event. We will be waiting for you.

Deadline for abstract submissions: **21 May 2016**
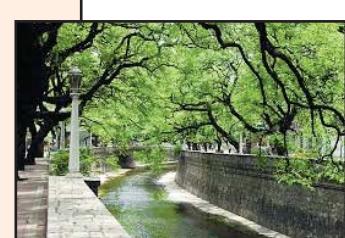
e-mail: **enief2016@frc.utn.edu.ar**
Web: **www.frc.utn.edu.ar/enief2016/** ●

Figure 2:
Prof. Luis A. Godoy